

### **Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1 - 23. (Canceled)

24. (Previously presented) A method of providing a scalable runtime system, the method comprising:

- running a global address space language program comprising a plurality of program threads;

- creating a directory of shared variables, for locating and managing shared objects, the directory containing information concerning data shared by the program threads for use by the threads in accessing the shared data and entries acting as object identifiers, providing a level of address translation between a compiler and the runtime system; and

- creating control structures to control allocation and de-allocation of the shared data;

- implementing a private memory of each thread, the private memory comprising a replica of the directory of shared variables such that said directory is replicated across all of the threads.

25. (Original) The method of claim 24 wherein creating control structures comprises creating a plurality of control structures wherein each control structure controls the allocation and de-allocation of a particular type of shared data structure.

26. (Original) The method of claim 24 comprising operating the runtime system on a distributed memory machine.

27. (Original) The method of claim 26 wherein each thread contains a private copy of the directory of shared variables and a calling thread allocates an entry in its directory of shared

variables and broadcasts an index of the entry to other threads.

28. (Original) The method of claim 26 wherein each thread has a private data control structure with a pointer to a shared memory fraction.

29. (Original) The method of claim 24 comprising operating the runtime system on a shared memory machine.

30. (Original) The method of claim 24 wherein a calling thread allocates space for a shared variable and inserts a handle in a partition in the directory of shared variables.

31. (Original) The method of claim 29 wherein the control structures are common such that any thread can access the common control structures.